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EXAMINER

RASHID, DAVID

ART UNIT

PAPER NUMBER

2624

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/762,091 | <b>Applicant(s)</b><br>MIYAMOTO ET AL. |  |
|                              | <b>Examiner</b><br>DAVID P. RASHID   | <b>Art Unit</b><br>2624                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 3/24/2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 18-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

#### *Amendments*

[1] This office action is responsive to the claim and specification amendment received on March 24, 2008. Claims 18-23 remain pending; claims 1-17 cancelled.

#### *Specification*

[2] In response to applicant's specification amendments and remarks received on March 24, 2008, the previous specification objections are withdrawn.

#### *Claim Objections*

[3] In response to applicant's claim objections amendments and remarks received on March 24, 2008, the previous claim objections are withdrawn.

[4] Applicant is advised that should claims 18-20 be found allowable, claims 21-23 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. *See* MPEP § 706.03(k).

[5] The following is a quotation of 37 CFR 1.75(a):

The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

[6] **Claim 23** is objected to under 37 CFR 1.75(a), as failing to conform to particularly point out and distinctly claim the subject matter which application regards as his invention or discovery.

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(i) Claim 23, l. 2 cites "said classifier" but it is unclear whether the classifier in question is in reference to "said first defect classifier" or "said second defect classifier" - suggest changing to "said second defect classifier".

***Claim Rejections - 35 USC § 102***

[7] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[8] **Claims 18-23** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,092,059 (issued Jul. 18, 2000) [*hereinafter* "Straforini et al."].

[i] Regarding **claim 18**, *Straforini et al.* discloses a method (fig. 5b) of classifying defects ("classification of material defects in an image of the material" at 6:15-20), comprising the steps of:

determining a sampling rate of defects (14:14-25; "RBC2...defines subclasses of the main classes defined by the TBC, e.g., 'long scratch,' and 'short scratch,' both of the main class 'scratch' " at 14:14-25) to be reviewed by a second inspection machine (fig. 5b, item 58) among defects detected ("RBC2...defines subclasses of the main classes defined by the TBC" at 14:14-25) by a first inspection machine (fig. 5b, items 54, 56); and

reviewing with said second inspection machine (fig. 5b, item 58), defects sampled (the defects in items 56 and 58 were sampled and reviewed) from said defects detected (“CLASSIFIED OBJECTS” from items 56 and 58 in fig. 5b) by said first inspection machine (fig. 5b, items 54, 56) in accordance with said determined sampling rate (14:14-25; “RBC2...defines subclasses of the main classes defined by the TBC, e.g., 'long scratch,' and 'short scratch,' both of the main class 'scratch' " at 14:14-25; refer to argument section for further detail on “sampling rate”) and classifying said reviewed defects ((the defects in items 56 and 58 were sampled and reviewed) with a second defect classifier (“RBC2” item 58 is a second defect classifier) corresponding to said second inspection machine (fig. 5b, item 58);

wherein the step of determining, said sampling rate (14:14-25; “RBC2...defines subclasses of the main classes defined by the TBC, e.g., 'long scratch,' and 'short scratch,' both of the main class 'scratch' " at 14:14-25; refer to argument section for further detail on “sampling rate”) is determined for each of defect classes (e.g., “the main class 'scratch' " at 14:14-25) classified by a first defect classifier (“RBC1” and “TBC”, items 54, 56 are a second defect classifier) corresponding to said first inspection machine (fig. 5b, items 54, 56).

[ii] Regarding **claim 19**, *Straforini et al.* discloses the method according to claim 18, wherein said second defect classifier (“RBC2” item 58 is a second defect classifier) has a decision tree (“REFINED OBJECT CLASSIFICATION” (for subclass recognition) and “UNREFINED OBJECT CLASSIFICATION” in fig. 3) for hierarchically expanding defect classification class items via branch items (the branches are the arrows leaving item box 56 in fig. 3), and wherein said decision tree is such that a classification rule (the classification rule is whether the object is sub-classed for “refined object classification” or just originally classed) created with sample

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inspection information (fig. 3, item 54) that has been previously derived from an inspection of an inspection sample (fig. 3, items 36, 18) is individually set for each of said branch items.

[iii] Regarding **claim 20**, *Straforini et al.* discloses the method according to claim 19, wherein said classification rule that is individually set for each of said branch items in said second classifier (refer to references/arguments cited in claim 21) is set from a screen that displays sample inspection information derived from an inspection of said inspection sample (“e.g., the distinction between two subclasses is a subjective judgment of the system operator, and also because the system operator might misclassify objects based on fine subclass distinctions...”, in 14:26-43, to do this the operator must view inspection information on some sort of “screen”).

[iv] Regarding **claim 21**, *Straforini et al.* discloses a method (fig. 5b) of classifying defects (“classification of material defects in an image of the material” at 6:15-20), comprising the steps of:

determining a sampling rate of defects (14:14-25; “RBC2...defines subclasses of the main classes defined by the TBC, e.g., 'long scratch,' and 'short scratch,' both of the main class 'scratch' ” at 14:14-25) to be reviewed by a second inspection machine (fig. 5b, item 58) among defects detected (“RBC2...defines subclasses of the main classes defined by the TBC” at 14:14-25) by a first inspection machine (fig. 5b, items 54, 56); and

reviewing with said second inspection machine (fig. 5b, item 58), defects sampled (the defects in items 56 and 58 were sampled and reviewed) from said defects detected (“CLASSIFIED OBJECTS” from items 56 and 58 in fig. 5b) by said first inspection machine (fig. 5b, items 54, 56) in accordance with said determined sampling rate (14:14-25; “RBC2...defines subclasses of the main classes defined by the TBC, e.g., 'long scratch,' and

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'short scratch,' both of the main class 'scratch' " at 14:14-25; refer to argument section for further detail on “sampling rate”) and classifying said reviewed defects ((the defects in items 56 and 58 were sampled and reviewed) with a second defect classifier (“RBC2” item 58 is a second defect classifier) corresponding to said second inspection machine (fig. 5b, item 58);

wherein the step of determining, said sampling rate of defects (14:14-25; "RBC2...defines subclasses of the main classes defined by the TBC, e.g., 'long scratch,' and 'short scratch,' both of the main class 'scratch' " at 14:14-25; refer to argument section for further detail on “sampling rate”) to be reviewed by said second inspection machine is determined for each of defect classes (*e.g.*, “the main class 'scratch' " at 14:14-25) in accordance with reliability (RBC2 relies on the first defect classifier) of each defect class classified with a first defect classifier (“RBC1” and “TBC”, items 54, 56 are a second defect classifier) corresponding to said first inspection machine (fig. 5b, items 54, 56).

[v] Regarding **claim 22**, claim 19 recites identical features as in claim 22. Thus, references/arguments equivalent to those presented above for claim 19 are equally applicable to claim 22.

[vi] Regarding **claim 23**, claim 20 recites identical features as in claim 23. Thus, references/arguments equivalent to those presented above for claim 20 are equally applicable to claim 23.

It must be noted that a similar rejection to claims 18-23 could be given between a first inspection machine (fig. 3, items 18, 54) and a second inspection machine (fig. 3, item 56, 58, 60) where the training-based classifier (TBC) item 56 is switched, as the TBC is dependent on

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the sampling rate of item 54 (as opposed to arguing item 58 is dependent on the sampling rate of 56 which is also true).

***Response to Arguments***

[9] Applicant's arguments filed on March 24, 2008 with respect to **claims 18 and 21** have been respectfully and fully considered, but they are not found persuasive.

[10] **Summary of Remarks** regarding **claims 18 and 21**:

(i) Applicant argues that Straforini's RBC2 58 does not perform "determining a sampling rate of defects to be reviewed by a second inspection machine." As best understood, Straforini teaches that all classified objects from the TBC 56 are sent to RBC2 for processing. (Straforini: col 15, lines 56- 58.) There is no disclosure in Straforini of determining a sampling rate that his RBC2 uses for review. Therefore, Straforini does not teach (or even suggest) "determining a sampling rate of defects to be reviewed by a second inspection machine among defects detected by a first inspection machine."

(ii) Applicant argues that Straforini's RBC2 58 does not perform "reviewing of defects sampled." As best understood, Straforini teaches that RBC2 simply accepts classified objects from the TBC 56 to make a refined subclass classification. (Straforini: col 15, lines 56-58.) The RBC2 does not perform a review of the defects themselves. Therefore, Straforini does not teach (or even suggest) "reviewing, with said second inspection machine, defects sampled from said defects detected by said first inspection machine in accordance with said determined sampling rate."

(iii) Applicant argues that the examiner provides an abstract definition of a "machine" and asserts in Fig. 3 that image processor 18 and two rule-based classifiers 54, 56 constitute a first



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machine. Respectfully, there is no basis for such an assertion. Straforini clearly identifies the image processor 18 as a component separate from classifiers 54 and 56 (which are components of classifier 10). One of ordinary skill in the art would not consider these disparate items constitute a "machine." Straforini clearly identifies item 18 as an image processor and item 10, which contains classifiers 54, 56, as an item separate from image processor 18. With respect, the examiner's identification of image processor 18 and classifiers 54, 56 as being a machine is arbitrary and cannot be supported by any understanding that a person of ordinary skill would have of the Straforini reference. The examiner further identified classifier 58 as being the recited "second inspection machine." However, the classifier 58 is a sub-component in a module identified by reference numeral 10 (classifier 10). In fact, classifiers 54 and 56 are the other sub-components of classifier 10. At best, Straforini's image processor 18 would be understood to be one machine, while the classifier 10 would be understood to be a second machine.

**[11] Examiner's Response regarding claims 18 and 21:**

(i) However, *Straforini et al.* does perform "determining a sampling rate of defects to be reviewed by a second inspection machine" for the following reasons.

One of ordinary skill in the art would consider a "sampling rate" as "the number of samples taken per unit of time." More specifically, "sampling rate of defects" would be considered as "the number of defect samples taken per unit of time." *Straforini et al.* discloses a second reference machine "RBC2" (*Id.* at fig. 5b, item 58; "second rule-based classifier" at 14:14-25) that receives classified objects from the first reference machine to be classified again to "those objects for which refined subclassification is possible" (*Id.* at 14:14-25; "classifier look-up table" at 14:44-15:2). "RBC2" does in fact determine a sampling rate in doing so, as in

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taking “those objects for which refined subclassification is possible”, a run-through of the algorithm in fig. 5b (which would be a unit of time) would find “the number of defect samples taken per a run-through of the algorithm” and thus the “sampling rate of defects”.

(ii) However, RBC2 does perform a review of the defects themselves from the first reference machine. “The second rule-based classifier, RBC2, is here implemented to accept classified objects from the TBC for refining of the classification.” at 14:14-16. In essence, RBC2 is taking the defects classified from TBC in an attempt to classify further, which is equivalent to a “review of the defects”.

(iii) MPEP § 2111 titled “Claim Interpretation; Broadest Reasonable Interpretation” cites, in relevant part:

During patent examination, the pending claims must be “given their broadest reasonable interpretation consistent with the specification.” >The Federal Circuit’s *en banc* decision in Phillips v. AWH Corp., 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the “broadest reasonable interpretation” standard: The Patent and Trademark Office (“PTO”) determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” In re Am. Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004).” Indeed, the rules of the PTO require that application claims must “conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.” 37 CFR 1.75(d)(1).

MPEP § 2111.

Furthermore, MPEP § 2111.01 (IV) cites, in relevant part:

An applicant is entitled to be his or her own lexicographer and may rebut the presumption that claim terms are to be given their ordinary and customary meaning by clearly setting forth a definition of the term that is different from its ordinary and customary meaning(s). See In re Paulsen, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (inventor may define specific terms used to describe invention, but must do so “with reasonable clarity, deliberateness, and

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precision” and, if done, must “set out his uncommon definition in some manner within the patent disclosure’ so as to give one of ordinary skill in the art notice of the change” in meaning) (*quoting Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387-88, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992)).

MPEP § 2111.01 (IV).

Applicant’s strict interpretation of “machine” is unpersuasive. The noun "machine" by definition can be interpreted to mean “a constructed thing whether material or immaterial” and “any of various apparatuses formerly used to produce stage effects”. See Merrian-Webster Online, 2007-2008, “machine” n. def. 1a, d, *available at* <http://www.m-w.com/dictionary>.

Under these two interpretations alone, one of ordinary skill in the art could easily interpret items 54, 56 as a “machine” and item 58 as another "machine" as each of these entities on their own are "formerly used to produce stage effects" so long as they are combinable and functional (*i.e.*, items 56 and 60 could be another "machine"). This interpretation is of the narrower of the two definitions given above, as “a constructed thing whether material or immaterial” could in essence be anything so long as it is “constructed”. The use of such a word in the claims is broad, and the Examiner suggests limiting the scope of Applicant’s “machine” that distinguishes it from the prior art of record “machine”.

***Conclusion***

[12] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 5917935 A; US 6026177 A; US 6075880 A; US 6148099 A; US 20010011706 A1; US 20010015805 A1; US 20010016061 A1; US 20010042705 A1; US 6408219 B2; US 20020164070 A1; US 20020181756 A1; US 20030054573 A1.

[13] **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

[14] Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID P. RASHID whose telephone number is (571)270-1578. The examiner can normally be reached Monday - Friday 7:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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